# Low Birthweight

Notice: Updated December 2010 with the most recent data points.

Q: What are the trends in human disease and conditions for which environmental contaminants may be a risk factors including across population subgroups and geographic regions?

The above question pertains to all 'Human Disease and Conditions' Indicators, however, the information on these pages (overview, graphics, references and metadata) relates specifically to "Low Birthweight". Use the right side drop list to view the other related indicators on this question.

## Introduction

The term "low birthweight" (LBW) is typically used for any infant weighing less than 2,500 grams at birth. Weight is a critical health measure because LBW children are more prone to death and disability than their counterparts.

The etiology of LBW for term–LBW (born after 37+ weeks of gestation) infants and preterm–LBW (born after less than 37 weeks of gestation) infants differs. For term–LBW infants, underlying causes include factors such as maternal smoking, weight at conception, and gestational weight gain, whereas for preterm-LBW infants, the etiology largely remains unexplained (CDC, 1994). Various exposures have been implicated as risk factors for term–LBW (e.g., maternal smoking, maternal exposure to lead, diethylstilbestrol, occupational exposures) (Sram et al., 2005; Kiely et al., 1994). The potential effect of air pollution on LBW continues to be researched (e.g., particulate matter, carbon monoxide, ozone).

This indicator presents the percentage of LBW infants born in the U.S. based on natality data reported to the National Vital Statistics System (NVSS). The NVSS registers virtually all deaths and births nationwide, with data coverage from 1933 to 2007 and from all 50 states and the District of Columbia.

The data presented are based on singleton births only. This was done to eliminate the effect of multiple births. The data are presented across three maternal age groups (under 20 years, 20-39 years, and 40 years and older). Additionally, the data are stratified and reported for preterm (less than 37 weeks) and full—term (37 weeks and over) births because of the strong association between birthweight and gestational age.

### What The Data Show

As expected, the percent of total LBW deliveries among preterm births is much higher than the percent of total LBW deliveries among full-term births across each of the three maternal age categories (Exhibits 5-37 and 5-38).

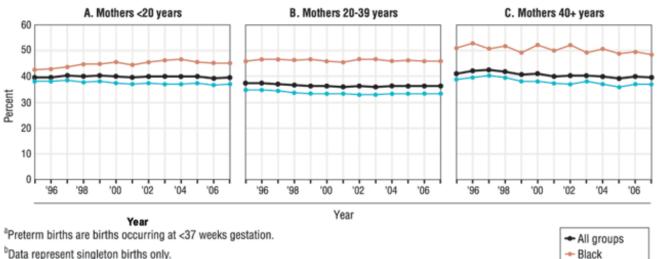
In general, small differences in the percent of LBW babies among maternal age categories are evident for both pre— and full—term births. For example, in 2007, the frequency of LBW babies among full—term births is highest for mothers less than 20 years old (3.9 percent), followed by mothers who are 40 years and older (3.1 percent) and lowest in mothers who are in the 20-39 age group (2.5 percent) (Exhibit 5-38).

Among the full-term births, black women had consistently higher frequencies of LBW babies

compared to any of the other racial groups reported from 1995 to 2007. This racial pattern is evident in 2007 for all three maternal age groups, and the difference is most apparent in the 40 and older age group (5.6 percent for blacks and 2.6 percent for whites). A decline in LBW babies for the 40 and older age group among blacks was observed between 2006 (6.3 percent) and 2007 (5.6 percent) (Exhibit 5-38).

The percentages of term-LBW babies among the other two racial groups reported in 2007, Native Americans and Asians/Pacific Islanders, were 3.0 percent and 3.5 percent, respectively, for the 40 and older age group. For Native Americans, the highest percentages were observed in the 40 and older age group during 2007. However, for Asians/Pacific Islanders, the highest percentage of term-LBW were observed in the under 20 year age group (4.3 percent). Hispanic women and non-Hispanic women had similar frequencies of term-LBW babies. For example, in 2007, the percent of LBW babies for Hispanic women was 2.4 percent compared to 2.8 percent for non–Hispanic women. (Data not shown.)

Exhibit 5-37. Percent of low birthweight infants (<2,500 grams) born preterm in the U.S. by mother's race and age, 1995-2007a,b

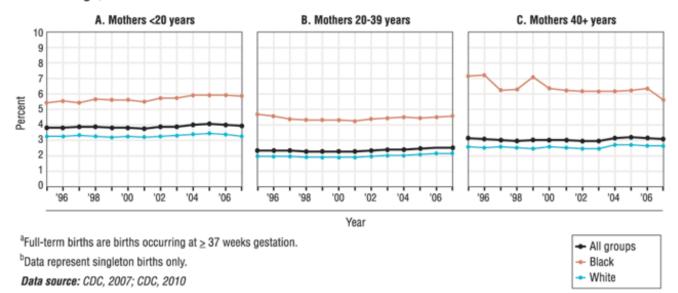


White

Data source: CDC, 2007; CDC, 2010

Data represent singleton births only.

**Exhibit 5-38.** Percent of low birthweight infants (<2,500 grams) born full-term in the U.S. by mother's race and age, 1995-2007<sup>a,b</sup>



#### Limitations

• Complete reporting of natality indicators such as LBW may vary due to differences in the reporting requirements established by each state. In some states, the number of LBW babies may be underreported.

#### **Data Sources**

The data used for this indicator were public-use natality data (1995-2007) obtained from the Centers for Disease Control and Prevention's (CDC's) National Center for Health Statistics (NCHS), Division of Vital Statistics, accessed via CDC WONDER (CDC, 2007) (1995-2004) and CDC's NCHS VitalStats (CDC, 2010) (2005-2007).

# References

CDC (Centers for Disease Control and Prevention). 2010. National Center for Health Statistics. VitalStats. Accessed October 2010. <a href="http://www.cdc.gov/nchs/vitalstats.htm">http://www.cdc.gov/nchs/vitalstats.htm</a>

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CDC. 1994. Increasing incidence of low birthweight—United States, 1981-1991. MMWR 43:335-339. <a href="http://www.cdc.gov/mmwr/preview/mmwrhtml/00030918.htm">http://www.cdc.gov/mmwr/preview/mmwrhtml/00030918.htm</a>

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Sram R.J., B. Binkova, J. Dejmek, and M. Bobak. 2005. Ambient air pollution and pregnancy outcomes: A review of the literature. Environ. Health Perspect. 113(4):375-382.